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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/003,189	10/29/2001	Damon John Ennis	10.0423 (4366)	4108

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EXAMINER

WON, MICHAEL YOUNG

ART UNIT PAPER NUMBER

2155

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/003,189

Applicant(s)

ENNIS ET AL.

Examiner

Michael Y. Won

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. This action is responsive to the amendment filed November 18, 2005.
2. Claims 1, 12, and 23 have been amended and claims 1-33 have been examined and are pending with this action.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Britton et al. (US 6,401,136 B1) in view of Piskiel et al. (US 5,916,307 A).

### **INDEPENDENT:**

As per ***claim 1***, Britton teaches a method, implemented by a communication coordinator on a module, for carrying out reliable communication in a communication system, comprising:

receiving a message from a sender (see col.2, line 66-col.3, line 4) intended for one or more applications (see col.3, lines 32-34), said message comprising a message identifier (see col.3, lines 4-10);

determining based upon said message identifier whether said message had previously been received (see col.10, lines 33-36); and

in response to a determination that said message had previously been received, foregoing delivery of said message to said one or more applications (see col.10, lines 37-41).

Britton does not explicitly teach wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once. Piskiel teaches wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once (see col.5, lines 27-31 and col.18, lines 48-51).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teaching of Piskiel within the system of Britton by implementing a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once within the reliable communication method because Piskiel teaches that such implementation improves performance (see abstract, last sentence) and Britton attempts to improve performance (see col.3, lines 32-34 & lines 52-57; and col.4, lines 23-25).

As per **claim 12**, Britton teaches an apparatus for implementing reliable communication in a communication system, comprising:

a mechanism for receiving a message from a sender (see col.2, line 66-col.3, line 4) intended for one or more applications (see col.3, lines 32-34), said message comprising a message identifier (see col.3, lines 4-10);

a mechanism for determining based upon said message identifier whether said message had previously been received (see col.10, lines 33-36); and

a mechanism for foregoing, in response to a determination that said message had previously been received, delivery of said message to said one or more applications (see col.10, lines 37-41).

Britton does not explicitly teach wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once. Piskiel teaches wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once (see col.5, lines 27-31 and col.18, lines 48-51).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teaching of Piskiel within the system of Britton by implementing a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once within the reliable communication apparatus because Piskiel teaches that such implementation improves performance (see abstract, last sentence) and Britton attempts to improve performance (see col.3, lines 32-34 & lines 52-57; and col.4, lines 23-25).

As per **claim 23**, Britton teaches a computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more

processors to implement reliable communication in a communication system, said computer readable medium comprising:

instructions for causing one or more processors to receive a message from a sender (see col.2, line 66-col.3, line 4) intended for one or more applications (see col.3, lines 32-34), said message comprising a message identifier (see col.3, lines 4-10);

instructions for causing one or more processors to determine based upon said message identifier whether said message had previously been received (see col.10, lines 33-36); and

instructions for causing one or more processors to forego, in response to a determination that said message had previously been received, delivery of said message to said one or more applications (see col.10, lines 37-41).

Britton does not explicitly teach wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once. Piskiel teaches wherein a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once (see col.5, lines 27-31 and col.18, lines 48-51).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ the teaching of Piskiel within the system of Britton by implementing a message exchange between a sender and a receiver is conducted ensuring that a message is delivered at most once within the reliable communication program because Piskiel teaches that such implementation improves performance (see

abstract, last sentence) and Britton attempts to improve performance (see col.3, lines 32-34 & lines 52-57; and col.4, lines 23-25).

**DEPENDENT:**

As per **claims 2, 13, and 24**, which respectively depends on claims 1, 12, and 23, Britton further teaches wherein said message identifier comprises a message sequence indicator, and wherein determining whether said message had previously been received comprises:

determining whether said message sequence indicator is one of the sequence indicators in a set of missing sequence indicators (implicit: see col.10, lines 33-41: any **missing** sequence number is a sequence number higher than the most recent committed sequence number); and

in response to a determination that said message sequence indicator is not one of the sequence indicators in said set of missing sequence indicators, concluding that said message had previously been received (implicit: see col.10, lines 33-41: if the "sequence number" is "less than or equal to" the "committed sequence number", then the message has been previously received since the "committed sequence number" is the largest received sequence number that is incremented and any **missing** sequence number is a sequence number higher than the most recent committed sequence number).

As per **claims 3, 14, and 25**, which respectively depends on claims 2, 13, and 24, Britton further teaches wherein determining whether said message had previously been received further comprises:

in response to a determination that said message sequence indicator is one of the sequence indicators in said set of missing sequence indicators, concluding that said message had not previously been received (see claim 2, 13, and 24 rejection above: any **missing** sequence number is a sequence number higher than the most recent committed sequence number); and

removing said message sequence indicator from said set of missing sequence indicators (see col.10, lines 45-48).

As per **claims 4, 15, and 26**, which respectively depends on claims 3, 14, and 25, Britton teaches of further comprising: in response to a determination that said message had not previously been received, delivering said message to said one or more applications (see Fig.2, step 120).

As per **claims 5, 16, and 27**, which respectively depends on claims 1, 12, and 23, Britton further teaches wherein said message identifier comprises a message sequence indicator, and wherein determining whether said message had previously been received comprises: accessing a receiving sequence indicator associated with said sender (see Fig.2, step 112); determining whether said message sequence indicator precedes said receiving sequence indicator in a predetermined sequence; in response to a determination that said message sequence indicator precedes said receiving sequence indicator in said predetermined sequence, determining whether said



message sequence indicator is one of the sequence indicators in a set of missing sequence indicators; and in response to a determination that said message sequence indicator is not one of the sequence indicators in said set of missing sequence indicators, concluding that said message had previously been received (see claim 2, 13, and 24, and claim 3, 14, and 25 rejections above).

As per **claims 6, 17, and 28**, which respectively depends on claims 1, 12, and 23, Britton further teaches wherein said message identifier comprises a message sequence indicator, and wherein determining whether said message had previously been received comprises: accessing a receiving sequence indicator associated with said sender; determining whether said message sequence indicator is equivalent to said receiving sequence indicator; and in response to a determination that said message sequence indicator is equivalent to said receiving sequence indicator, concluding that said message had previously been received (see claim 2, 13, and 24, and claim 3, 14, and 25 rejections above).

As per **claims 7, 18, and 29**, which respectively depends on claims 1, 12, and 23, Britton teaches of further comprising: in response to a determination that said message had not previously been received, delivering said message to said one or more applications (see Fig.2, step 120).

As per **claims 8, 19, and 30**, which respectively depends on claims 7, 18, and 29, Britton further teaches wherein said message identifier comprises a message sequence indicator, and wherein determining whether said message had previously been received comprises: accessing a receiving sequence indicator associated with

said sender; determining whether said message sequence indicator precedes said receiving sequence indicator in a predetermined sequence; in response to a determination that said message sequence indicator precedes said receiving sequence indicator in said predetermined sequence, determining whether said message sequence indicator is one of the sequence indicators in a set of missing sequence indicators; in response to a determination that said message sequence indicator is one of the sequence indicators in said set of missing sequence indicators, concluding that said message had not previously been received; and removing said message sequence indicator from said set of missing sequence indicators (see claim 2, 13, and 24, and claim 3, 14, and 25 rejections above).

As per **claims 9, 20, and 31**, which respectively depends on claims 7, 18, and 29, Britton further teaches wherein said message identifier comprises a message sequence indicator, and wherein determining whether said message had previously been received comprises: accessing a receiving sequence indicator associated with said sender; determining whether said message sequence indicator comes after said receiving sequence indicator in a predetermined sequence; and in response to a determination that said message sequence indicator comes after said receiving sequence indicator in said predetermined sequence, concluding that said message had not previously been received (see claim 2, 13, and 24 rejection above).

As per **claims 10, 21, and 32**, which respectively depends on claims 9, 20, and 31, Britton further teaches wherein determining whether said message had previously been received further comprises: in response to a determination that said message

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sequence indicator comes after said receiving sequence indicator in said predetermined sequence, determining whether there are any intervening sequence indicators between said message sequence indicator and said receiving sequence indicator; and in response to a determination that there is one or more intervening sequence indicators between said message sequence indicator and said receiving sequence indicator, adding said one or more intervening sequence indicators to a set of missing sequence indicators (see claim 2, 13, and 24, and claim 3, 14, and 25 rejections above).

As per **claims 11, 22, and 33**, which respectively depends on claims 9, 20, and 31, Britton further teaches wherein determining whether said message had previously been received further comprises: in response to a determination that said message sequence indicator comes after said receiving sequence indicator in said predetermined sequence, updating said receiving sequence indicator with said message sequence indicator (see Fig.2, step 116 and col.10, lines 45-50).

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-33 have been considered but are moot in view of the new ground(s) of rejection. A new reference has been discovered to explicitly teach the new amended limitations of claim 1, 12, and 23.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

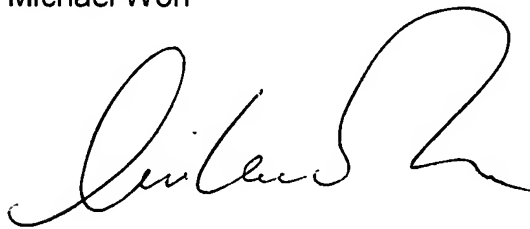
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Won



January 23, 2006



SALEH NAJJAR  
SUPERVISORY PATENT EXAMINER